10/10/13

Agenda

- Opener

- Review Homework 2.4 day 1
  - p. 100-108 (14-34 evens, 58)

- Section 2.4 day 2 - Solving Equations w/vars on both sides

Homework - Worksheet 2.4

Homework out!

Warmup, solve the following equations.

$x = 5$

$$4x + 8 = 6x - 2$$

$-6x \quad -6x$

$$-2x + 8 = -2$$

$-8 \quad -8$

$$-2x = -10$$

$\frac{}{-2} \quad \frac{}{-2}$

$$x = 5$$

$x = -\frac{12}{7}$

$$-2x - 4 = 5x + 8$$

$+2x \quad +2x$

$$-4 = 7x + 8$$

$-8 \quad -8$

$$-12 = 7x$$

$\frac{-12}{7} \quad \frac{7x}{7}$

$$-1.7 \approx \frac{-12}{7} = x$$

Section 2.4 - Solving Equations w/var. on both sides day 2
Target 2B

Variables on both sides AND Distributuing

$2(5x-1)=3(x+11)$

$10x-2=3x+33$

$-3x \quad -3x$

$7x-2=33$

$+2 \quad +2$

$7x=35$

$\frac{7x}{7}=\frac{35}{7}$

$x=5$

2 | 5x - 1 | 10x | -2

3 | x + 11 | 3x | +33

You try

$7(4-a)=3(a-4)$

$28-7a=3a-12$

$+7a \quad +7a$

$28=10a-12$

$+12 \quad +12$

$\frac{40}{10}=\frac{10a}{10}$

$4=a$

7 | 4 - a | 28 | -7a

3 | a - 4 | 3a | -12

Section 2.4 - Solving Equations w/var. on both sides day 2
Target 2B

Types of Solutions:

We have three types of solutions when we solve equations:

1) 1 SOLUTION This is the most common.
2) IDENTITY / ALL ∞ SOLUTIONS
3) NO SOLUTION

Lets take a look at some of the least common:

$10x+12=2(5x+6)$

$10x+12=10x+12$

$-10x \quad -10x$

$12=12$

∞ SOLUTIONS

TRUE

$9m-4=-3m+5+12m$

$9m-4=9m+5$

$-9m \quad -9m$

$-4=5$

FALSE

NO SOLUTION

$5x+6$

2 | $10x$ | $+12$ |

Remember True vs. False

YOU TRY:

1 SOLUTION
NO SOLUTION
∞ SOLUTIONS

$3(4b-2) = -6+12b$

$-6 = -6$

∞ SOLUTIONS

$2x+8 = -1(3-2x)$

$8 = -3$

NO SOLUTION

Section 2.4 - Solving Equations w/var. on both sides day 2
Target 2B

You try

Tell me:
- 1 solution
- Identity
- No Solution

$3(4b-2)=-6+12b$

$2x+8=-1(3-2x)$

Summary:

We can have multi-step equations with variables on both sides. Distribute first, combine like variables, then move the variable from one side of the equation to the other and solve.

There are three types of solutions.

1 solution (this is where you say x = some number)

Identity (Infinite number of solutions)
(this is where any value you give the variable will make the equation always true)

No Solution (this is where no matter what value you give the variable, the equation is always false)